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# A Comprehensive Examination of Pharmacy Technician Requirements and Pharmacists' Perceptions of The Role of Technicians

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A Comprehensive Examination of Pharmacy Technician Requirements and Pharmacists'  
Perceptions of The Role of Technicians

By

Courtney Hahs

A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of  
the requirements of the Sally McDonnell Barksdale Honors College

Oxford

May 2021

Approved by

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Advisor: Professor Erin Holmes

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Additionally, I would like to thank Wes Sparkmon for offering valuable advice, helping me find resources, and allowing me to add my questions to his survey. I would also like to thank my second and third readers, Dr. Barnard and Dr. Ballou for taking the time to read over and review my thesis. Finally, I would like to thank all my family and friends for supporting me and offering encouragement.

## **ABSTRACT**

Pharmacy technicians play a crucial role in assisting pharmacists and allowing a pharmacy to function properly and provide care to patients. While technicians take on many tasks in a pharmacy, their role has started to evolve and expand. The first purpose of this study was to determine how states differ regarding the following pharmacy technician roles and requirements: whether or not technicians are licensed and/or certified, mandated technician-to-pharmacist ratio, whether or not technicians are allowed to take or give verbal prescriptions, verify filled prescriptions, and provide immunizations. The second purpose was to analyze how pharmacists across the United States viewed different aspects of pharmacy technician training and education, as well as assess how pharmacists report how pharmacy technician training and education is handled in community pharmacies throughout the United States. Pharmacy technician state regulations for licensure, certification, and tasks were collected and frequencies were determined. It was determined that a majority of states require pharmacy technicians to be licensed and a minority of states required technicians to be certified. Only a small number of states allow pharmacy technicians to give and receive verbal prescriptions, and an even smaller number of states allow technicians to check prescriptions and administer immunizations. A cross-sectional, descriptive online survey was distributed to 1904 pharmacists nation-wide, with 205 complete respondents. A majority of respondents believed that pharmacy technicians should complete an education

program before being eligible to take a national certification exam. Respondents were split between their pharmacy not offering to pay for a national certification exam and reimbursing the technician after they passed the exam, with a minority offering reimbursement before the exam. Respondents were also split between if their pharmacy offered an in-house education program for technicians wanting to become nationally certified. A majority of pharmacists stated there should be additional training for technicians beyond the national examinations for those who are interested. A majority of respondents had pharmacies that offer reimbursement for an education program outside of their company. Percentages of current technicians that are nationally certified were split amongst the four answers, with a majority having 75% or greater. Most pharmacists encouraged their technicians to pursue national certification and had more confidence in technicians that were nationally certified. The open-ended question at the end of the survey gained a lot of responses, including thoughts about compensation for new tasks, training and education, comfort levels, responsibilities, employee satisfaction, and opposition to additional tasks for technicians. Overall, the pharmacists who responded had positive views regarding national certification for pharmacy technicians and were open to technicians taking on more tasks, as long as education and training were adequate. This study emphasized the importance of education and training, which will be key in allowing technicians to expand their roles and pharmacists having confidence in their technicians.

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## **BACKGROUND**

### ***The Pharmacy Technician's Role***

Pharmacy technicians work together with pharmacists in order to dispense prescription medications to patients, customers, or healthcare professionals (“Pharmacy Technicians”). This means that technicians are there to support and help the pharmacists while working under their supervision (“Pharmacy Technicians”). They have a variety of roles in a pharmacy, including performing most of the tasks involved with preparing and selling prescriptions (Saffer). In order for a prescription to be filled, pharmacy technicians first verify that the written prescription or refill request information is correct and accurate and solve any problems with insurance companies (Saffer). Technicians are then able to count or pour the medication, add it to the correct container, create a prescription label, and stick it onto the filled container (Saffer). After the prescription is completely filled and checked, technicians can hang it up on a shelf to be stored, or they can sell it to the customer if they are present. Pharmacy technicians also have other duties such as stocking medications on shelves, completing inventory, cleaning, managing the cash register, answering phone calls, and entering patient information (Saffer and “Pharmacy Technicians”). Most states, but not all, also allow pharmacy technicians to compound medications and call a physician’s office for refill authorizations (“Pharmacy Technicians”). In hospitals, pharmacy technicians perform different tasks like adding prescription information into patients’ medical records, reading physicians’ directions on a patient’s chart, and preparing to deliver medications to patients in the hospital (Saffer). Although technicians in hospitals are important, our survey focused on technicians’ roles

in community pharmacies. Pharmacy technicians make considerably less than pharmacists, with the median wage for pharmacy technicians in 2018 as \$32,700 or \$15.72 per hour (“Pharmacy Technicians”). Most pharmacy technicians are full-time workers, although some may only work part-time. Schedules and hours vary at different pharmacies, meaning some technicians may have to work weekends or night shifts. There is quite a large demand for pharmacy technicians, indicating there are quite a few technicians employed in the United States. In 2018 there were 420,400 pharmacy technicians, with an average growth rate of 7% in 10 years, which is 2% higher than the average for all occupations (“Pharmacy Technicians”). By 2028, it is expected that 31,500 technician jobs will be added (“Pharmacy Technicians”). This large increase in demand for pharmaceutical services will be due to the higher demand for prescriptions (“Pharmacy Technicians”). Throughout the last few years, the role of pharmacy technicians has changed in order to allow pharmacists to do higher-level tasks (Saffer). In some states, the duties of technicians have evolved tremendously and they are taking on a more progressive role in the pharmacy. Very few states have started allowing pharmacy technicians to give immunizations, check prescriptions, or receive a verbal prescription on the phone. Pharmacists are now focusing more on patient care, leaving technicians to complete the more distributive tasks and preparing the work for the pharmacist (Saffer).

### ***Pharmacist’s Role and Education***

Pharmacists require more advanced training and a higher level of education than pharmacy technicians. Pharmacists are required to have a Doctor of Pharmacy (Pharm.D.), a postgraduate professional degree, from a pharmacy program that is accredited (“Pharmacists”). Before entering pharmacy school, pharmacy applicants must

take courses such as chemistry, biology, and physics, as well as complete at least two years of undergraduate studies and take the PCAT, also known as the Pharmacy College Admissions Test (“Pharmacists”). Most Pharm.D. programs last four years, but a few offer a three-year option instead (“Pharmacists”). Students in these programs are expected to complete courses such as medical ethics, pharmacology, and chemistry (“Pharmacists”). Students are also able to take part in supervised work experiences, also known as internships, in different work environments like hospitals and pharmacies (“Pharmacists”). After receiving their Pharm.D. degree, some pharmacists choose to get additional training by completing a 1-2-year residency (“Pharmacists”). Employed pharmacists must also continue to further their knowledge by taking educational courses and reading current pharmaceutical news in order to keep up with advances in the evolving world of pharmacological science (“Pharmacists”). Pharmacists complete a variety of tasks in the pharmacy. They are responsible for dispensing prescription medications to patients, by first verifying that that all instructions and amounts of correct (“Pharmacists”). A key role of pharmacists is providing information regarding prescriptions and explaining how to safely use medications (“Pharmacists”). It is important that they pay attention to any possible side effects and keep track of what patients are taking to make sure that their prescriptions won’t negatively interact with each other. Pharmacists may also administer immunizations, such as flu shots, conduct health and wellness screenings, and oversee the work of pharmacy technicians (“Pharmacists”). Another important role of pharmacists is to provide advice on healthy lifestyles, such as managing stress, diet, and helpful medical supplies (“Pharmacists”). They are actively involved in the medication-use process like dispensing, administering,

monitoring, and educating (“ASHP Statement on the Pharmacist’s Role in Primary Care.”). Pharmacists are clinically trained, whereas technicians are there to support and help.

### ***Pharmacy Technician’s Education***

Compared to pharmacists, pharmacy technicians are required to have very little education and experience. In order to become a pharmacy technician, at minimum, one must have a high school diploma and they normally learn their duties during on-the-job training in the pharmacy (“Pharmacy Technicians”). Others may choose to attend postsecondary education classes and programs in pharmacy technology and go on to earn an associate’s degree or master’s degree (“Pharmacy Technicians”). As the role of pharmacy technicians is changing, many have been required to complete additional certifications, training courses, and furthering their education (Malacos).

### ***Technician Policies by State***

Policies and the roles of pharmacy technicians vary from state to state. A majority of states require pharmacy technicians to be licensed through their state’s Board of Pharmacy (Catizone). Becoming licensed results from the federal or state government granting an individual permission to engage as a pharmacy technician because the applicant has proven to have the necessary competence for completing the job in a safely manner (“How Can I Obtain A State License?”). Being registered through the state allows the government to keep the public safe by “preventing individuals with documented problems from serving as pharmacy technicians” (“How Can I Obtain A State License?”). The minimum requirements to become a licensed pharmacy technician differ by state. States like Alabama, New Jersey, and Missouri only require registration

through their state Board of Pharmacy (Marotta). Others have extra requirements, such as completing a training program in Indiana, completing on-the-job training in Nevada, and applying for pharmacy technician designation with the Department of Commerce in Utah (Marotta). Close to 50% of states require technicians to be nationally certified through the Pharmacy Technician Certification Board (Catizone). Certification is granted to individuals that possess enough knowledge, skills, and experience set by non-governmental companies (“How Can I Obtain A State License?”). In order to become certified, one must pass the pharmacy technician certification exam through the Pharmacy Technician Certification Board, also known as the PTCB (ASHP). To be eligible to take the test, one is required to have a high school diploma (or GED), no felony or drug-related convictions, and cannot be under restrictions of a State Board of Pharmacy (ASHP). To stay certified, one must complete twenty hours of continuing education programs every two years (ASHP). States also have different policies regarding tasks pharmacy technicians are able to perform.

### ***Pharmacists’ Perception of Technicians***

As the pharmacy technician’s role becomes more involved, pharmacists have differing views on what technicians should be allowed to do. While some agree that technicians should take on more complex tasks, others refuse to allow them to expand their roles. There is a lot of debate amongst pharmacists on whether states should allow pharmacy technicians to complete tasks like administering immunization, checking prescriptions, and receiving or giving verbal prescriptions. Pharmacists who believe pharmacy technicians should be allowed to give immunizations tend to only feel comfortable with certain technicians being able to administer them, as long as they have

the correct training (Bertsch et al). Some pharmacists think there are benefits with allowing technicians to give immunizations, as more people are able to get vaccinated due to more vaccinators being available (Bertsch et al). Yet, some pharmacists are still not comfortable with pharmacy technicians administering immunizations. Pharmacists that are comfortable with technicians checking prescriptions (tech-check-tech) think it can be safely and accurately performed (Frost and Adams). Training is an important factor for pharmacists when deciding if technicians should be able to check prescriptions (Frost and Adams). Regarding pharmacy technicians receiving verbal prescriptions, pharmacists may only allow senior technicians or those with more experience to do so (Frost and Adams 2). Some pharmacists may feel more comfortable if technicians use strategies like read-back and spell-back techniques (Frost and Adams 2). Technician certification is an important factor regarding whether technicians should be able to complete complex tasks. While a minority of pharmacists don't regard technician certification as essential, a majority find it to be extremely important. The Pharmacy Technician Certification Board found that "lead pharmacists perceive pharmacy technician certification as an essential component in reducing medication errors, ensuring patient safety, and increasing positive health outcomes" ("Research"). Many pharmacists view certification as a necessary requirement in order to help technicians be well suited for the job and be able to complete their tasks better and more efficiently than those without certification. Certification can be a great indicator on how well technicians will do the tasks required of them. Results of a survey published in the Journal of Pharmacy Technology found that pharmacists viewed technician certification as a more valued education and training source than nonpharmacy work experience, vocational training

program completion, and 4-year college degree (Desselle and Schmitt). Pharmacists understand that certification is becoming increasingly important as a source of education and training for technicians. Pharmacists view certification as an important and essential accreditation. More and more pharmacists are supporting the idea that pharmacy technicians should be nationally certified. This survey also concluded that “a vast majority of pharmacists supported mandatory certification and standardized education requirements to sit for a national certification examination” (Desselle and Schmitt). An increasing number of pharmacists are pushing for technician certification to be a mandatory requirement for pharmacy technicians

### ***Objectives***

1. To describe state regulations for pharmacy technicians including licensure and certification requirements, technician to pharmacist ratios, and regulatory allowances for the completion of higher-level tasks by pharmacy technicians.
2. To quantitatively describe pharmacists’ perceptions and opinions about pharmacy technician education and training, and to determine if there are differences in perceptions between independent and chain pharmacists.
3. To assess how pharmacy technician training and education is handled in community pharmacies throughout the United States, via pharmacist report, and to determine if there are differences in perceptions between independent and chain pharmacists.
4. To collect qualitative comments from pharmacists about technician training, certifications and higher-level tasks for the purpose of identifying future research directions.



## METHODS

### *Objective 1 – Description of State Regulations for Pharmacy Technicians*

*Design.* For this objective, this study employed a content analysis approach.

*Data Collection.* State regulations for pharmacy technicians was collected for all 50 states, including the District of Columbia.

*Measures.* Data collected included whether or not technicians are licensed and/or certified, mandated technician-to-pharmacist ratio, whether or not technicians are allowed to take or give verbal prescriptions, verify filled prescriptions, and provide immunizations. Data was collected September and October of 2019. Data was collected using the 2019 Survey of Pharmacy Law and resources as needed.

*Data Management.* Data collected (whether or not technicians are licensed and/or certified, mandated technician-to-pharmacist ratio, whether or not technicians are allowed to take or give verbal prescriptions, verify filled prescriptions, and provide immunizations) was entered into an Excel sheet for each state for tabulation.

*Data Analysis.* Frequency counts were tabulated for all data collected including whether or not technicians are licensed and/or certified, mandated technician-to-pharmacist ratio, whether or not technicians are allowed to take or give verbal prescriptions, verify filled prescriptions, and provide immunizations.

### ***Objectives 2-3 – Pharmacist Perceptions of Pharmacy Technician Training***

*Design.* For this objective, this study employed a cross-sectional, descriptive design by means of a self-administered online survey.

*Sample description.* A national convenience sample of community pharmacists, from both independent and chain community pharmacies, were used to investigate perceptions about expanded technician responsibility. The sample of community pharmacists were recruited from a national online panel of community pharmacists provided by a healthcare marketing research company (KS&R).

*Sample size.* Sample size estimates were made for the purposes of other data analyses conducted for this study that were outside the scope of this thesis project. Based on these parameters, 178 respondents were determined to be required. However, 250 pharmacists were established as the target sample due to the possibility of excluding participants from analysis.

*Measures - Demographic variables.* Demographic variables to be collected include age, identified gender, pharmacy degree, type of pharmacy, setting (urban, suburban, rural), and geographic region.

*Measures – Other variables.* To assess objectives 2 and 3, pharmacists were asked 1) if they believed all nationally certified technicians should enroll in a technician education program before being eligible for the Pharmacy Technician Certification Exam (PTCE) or Exam for Certified Pharmacy Technicians (ExCPT) (yes, no or maybe); 2) if their pharmacy offers to pay for the PTCE or ExCPT for interested technicians (yes, before the exam, reimburse the technician after taking the exam, and no) 3) if their

pharmacy offers an in-house education program for technicians wanting to become nationally certified (yes or no); 4) if they believe there should be additional training for technicians beyond the national examinations for those who are interested (yes or no); 5) if their pharmacy offers reimbursement for an education program outside of their company (yes or no); 6) what percentage of their technicians are nationally certified? (less than 25%, 25-49%, 50-74%, 75% or greater); 7) Do they encourage their technicians to pursue national certification (yes, sometimes, no); and 8) If they have more confidence in pharmacy technicians that are nationally certified to complete their tasks correctly and in a timely manner (yes or no).

*Data Collection.* The survey was programmed using Qualtrics, a web-based tool used for designing and electronic distribution of questionnaires. Before pre-testing the questionnaire, exemption from the University of Mississippi's Institutional Review Board (IRB) was obtained. Before administration of the survey, the questionnaire was first pretested among 11 local, licensed community pharmacists for the purpose of evaluating and maximizing the clarity, readability and understandability of the questions and determine the length of time needed to complete the questionnaire.

For the study itself, an invitation email stating the purpose of the study containing a link to the final version of the questionnaire was sent to a national convenience sample of independent and chain community pharmacists provided by a healthcare marketing research company (Reckner Healthcare). The survey link remained available until an adequate number of pharmacists complete the survey. The survey link was active March 6-7, 2020.

*Data Management.* Data for responses from community pharmacists was collected directly via Qualtrics and was exported into Microsoft Excel.

*Data Analysis.* The sample will be described with demographic variables including age, identified gender, pharmacy degree, type of pharmacy, setting (urban, suburban, rural), and geographic region using means and frequencies. Data used to address research objectives 2 and 3 were analyzed using frequencies. Differences in perceptions between independent and chain pharmacists were tested using chi square tests and adjusted residuals.

#### ***Objective 4 – Pharmacist Perceptions of Pharmacy Technician Training***

For objective 4, pharmacists' perceptions of pharmacy technician training were asked in the form of an open-ended question posed to respondents, "Please provide any additional comments about technician training, certification, and/or tasks." The design, sample description, sample size, and data collection followed the same procedures as those described above for objectives 2 and 3. To analyze the qualitative data associated with this question, three independent investigators individually categorized responses into training, certification, tasks, and other themes. After independently identifying themes, the investigators met together via Zoom to come to consensus on themes and resolve any disagreement in categorizations. Data was presented in a summated way by presenting and discussing example quotes for each theme.

## RESULTS

For this study, data was collected through a healthcare research company (KS&R) with surveys sent to community pharmacists. The total response rate for the study was 13.5% (257 responses recorded from 1904 surveys sent). In total, 52 responses were removed for incomplete responses after the quota of chain and independent pharmacists was met, so the analyzed response rate was 10.8% (205 completed responses from 1904 surveys sent).

Within this study, 54% of surveyed pharmacists were male (111 of 205), while 107 of the responses were from chain pharmacists and 98 worked primarily in independent pharmacies. Among the surveyed pharmacists, 58.5% of the pharmacists had received their Doctor of Pharmacy degree (PharmD), with another 34% having received the Bachelor of Pharmacy and the remaining pharmacists having post-doctorate residency training. In terms of their time as pharmacists, more than 35% of respondents had worked for more than 20 years, while a quarter of surveyed pharmacists had worked for between 5 and 10 years. Of the 205 responses, only 16 had worked for fewer than 5 years. When classifying their pharmacy's setting, nearly half of the pharmacists worked in a suburban setting and nearly 35% worked primarily in an urban setting. Table 1 describes our study sample in more detail.

Table 1: Characteristics of Respondents

<i>Characteristic</i>		<i>N</i>	<i>%</i>
<b>Gender</b>	Male	111	54.1%
	Female	94	45.9%
<b>Level of Education</b>	Bachelor's Degree	70	34.1%
	Doctor of Pharmacy	120	58.5%
	Post-Graduate Residency Training	15	7.3%
<b>Time as a Practicing Pharmacist</b>	Less than 5 years	16	7.8%
	5-10 years	50	24.4%
	11-15 years	38	18.5%
	16-20 years	28	13.7%
	More than 20 years	73	35.6%
<b>Type of Pharmacy</b>	Independent Pharmacy	98	47.8%
	Chain Pharmacy	107	52.2%
<b>Pharmacy Setting</b>	Urban	71	34.6%
	Suburban	101	49.3%
	Rural	33	16.1%
<b>Region</b>	Northeast	40	19.5%
	Midwest	53	25.9%
	South	82	40.0%
	West	30	14.6%

### *Objective 1 – Description of State Regulations for Pharmacy Technicians*

In examining the 2019 Survey of Pharmacy Law and other resources, it was found that most states require pharmacy technicians to be licensed, but a minority of states required technicians to be certified. A small number of states allow pharmacy technicians to give and receive verbal prescriptions, and an even smaller number of states allow technicians to check prescriptions and administer immunizations (Table 2).

Table 2. Description of State Regulations for Pharmacy Technicians

<i>Regulation</i>	<i>No. States Including D.C. (%)</i>
<i>Licensure Required</i>	
Yes	45 (88.2)
No	6 (11.8)
<i>Certification Required</i>	
Yes	21 (41.2)
No	30 (58.8)
<i>Allowed to Give/Receive Verbal Prescriptions</i>	
Yes	15 (29.4)
No	36 (70.6)
<i>Allowed to Check Prescriptions</i>	
Yes	2 (3.9)
No	49 (96.1)
<i>Allowed to Administer Immunizations</i>	
Yes	2 (3.9)
No	49 (96.1)
<i>Census Region</i>	
Northeast	9 (17.7)
Midwest	12 (23.5)
South	17 (33.3)
West	13 (25.5)

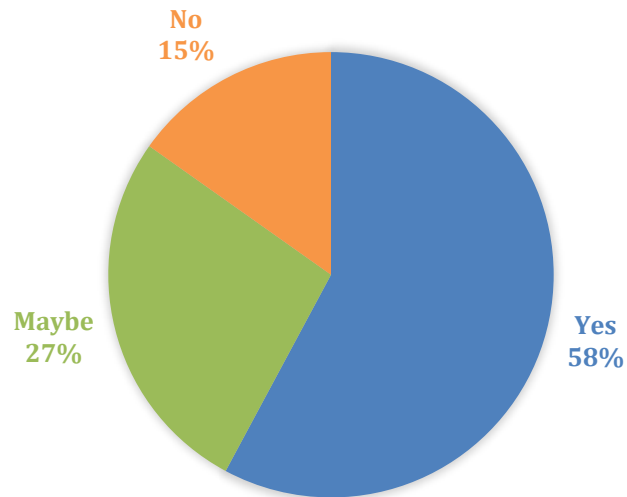
### ***Objectives 2-3***

The second objective of this study was to quantitatively describe pharmacists' perceptions and opinions about pharmacy technician education and training. The third objective was to assess how pharmacy technician training and education is handled in community pharmacies throughout the United States, via pharmacist report. Eight questions were asked of pharmacists to meet these objectives. Each question is listed below, each followed by a pie chart illustrating pharmacist responses. Additionally, for

both objectives 2 and 3, we sought to determine if there are differences in perceptions between independent and chain pharmacists.

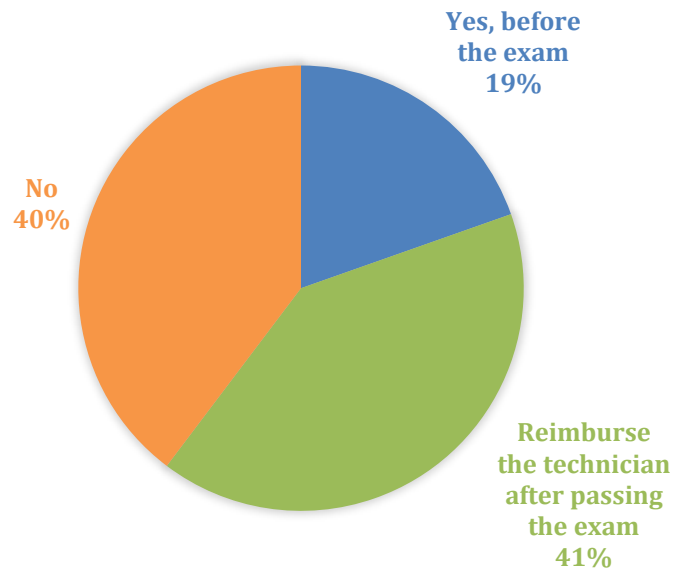


Figure 1. Do you believe all nationally certified technicians should enroll in a technician education program before being eligible for the Pharmacy Technician Certification Exam (PTCE) or Exam for Certified Pharmacy Technicians (ExCPT)?



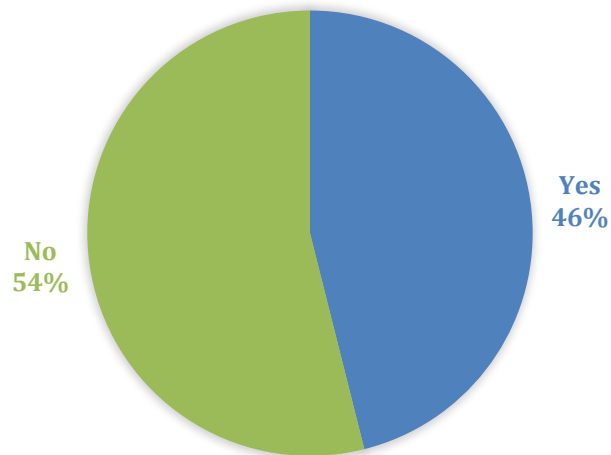
Chain pharmacists were more likely than independent pharmacists to agree that all nationally certified technicians should enroll in a technician program before being eligible for the PTCE or ExCPT ( $\chi^2 (2, n = 204) = 7.6, p = .022$ ).

Figure 2. Does your pharmacy offer to pay for the PTCE or ExCPT for interested technicians?



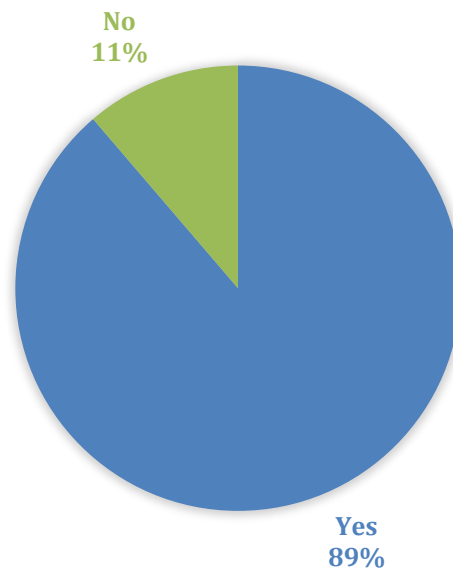
Chain pharmacists were more likely than independent pharmacists to reimburse the technicians after taking the exam, whereas independent pharmacists were more likely to not reimburse the technician at all ( $\chi^2 (2, n = 204) = 8.3, p = .016$ ).

Figure 3. Does your pharmacy offer an in-house education program for technicians wanting to become nationally certified?



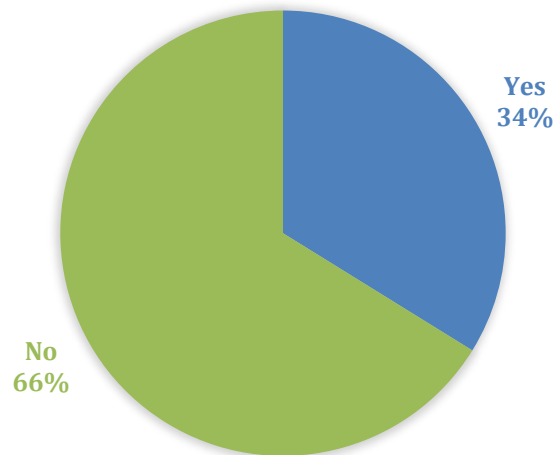
Chain pharmacists were more likely than independent pharmacists to offer an in-house education program for technicians wanting to become nationally certified ( $X^2(1, n = 204) = 18.2, p = .000$ ).

Figure 4. Do you believe there should be additional training for technicians beyond the national examinations for those who are interested?



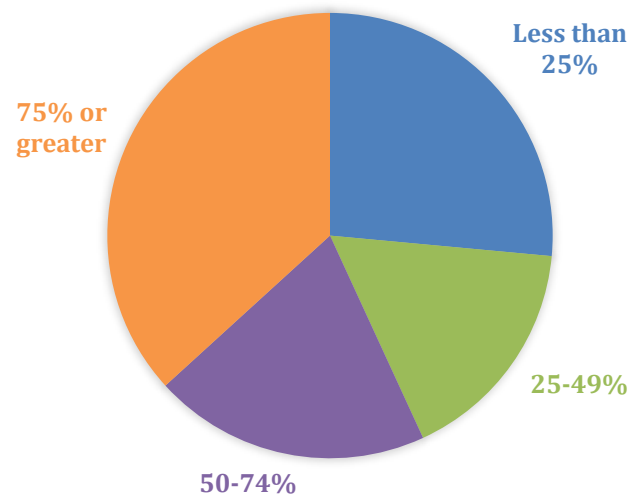
There were no differences between chain pharmacists' and independent pharmacists' beliefs as to whether there should be additional training for technicians beyond the national examinations for those who are interested ( $\chi^2 (1, n = 204) = .18, p = .673$ ).

Figure 5. Does your pharmacy offer reimbursement for an education program outside of your company?



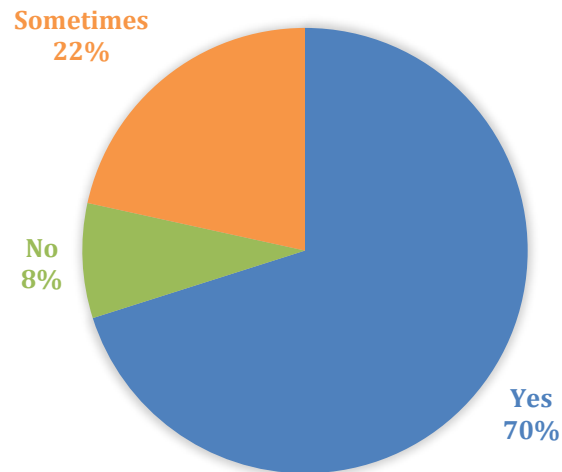
There were no differences between chain pharmacists' and independent pharmacists' offering of reimbursement for an education program outside their company ( $\chi^2 (1, n = 204) = 2.6, p = .151$ ).

Figure 6. What percentage of your current technicians are nationally certified?



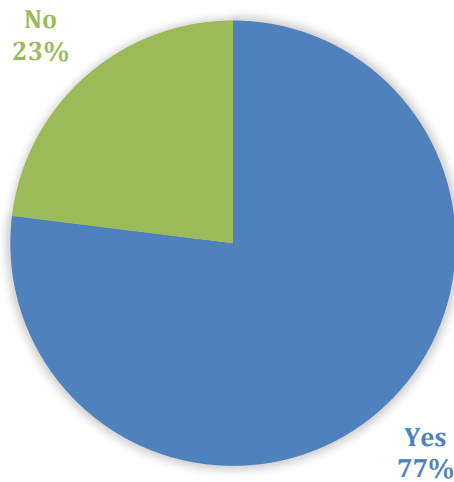
There were no differences between chain pharmacists' and independent pharmacists' in terms of what percentage of their technicians were nationally certified ( $\chi^2 (3, n = 204) = 2.2, p = .543$ ).

Figure 7. Do you encourage your technicians to pursue national certification?



Independent pharmacists were more likely to NOT encourage their technicians to pursue national certification than chain pharmacists ( $\chi^2 (2, n = 204) = 7.08, p = .029$ ), although 68 out of the total responding 98 independent pharmacists reported that they DID encourage their technicians to pursue national certification.

Figure 8. Do you have more confidence in pharmacy technicians that are nationally certified to complete their tasks correctly and in a timely manner?



Finally, there were no differences between chain pharmacists' and independent pharmacists' confidence in national certified technicians' ability to complete their tasks in a timely manner ( $\chi^2 (1, n = 204) = 3.26, p = .071$ ).



#### ***Objective 4***

The fourth objective of this study was to collect qualitative comments from pharmacists about technician training, certifications and higher-level tasks for the purpose of identifying future research directions.

#### **Against Certification/Techs Taking on Additional Tasks**

Not all pharmacists surveyed were comfortable with pharmacy technicians expanding their role in the pharmacy. One respondent expressed, “I don't feel a technician should be allowed to offer services to patients such as immunizations and verifying prescriptions and taking prescriptions over the phone or giving transfers to other pharmacies. This is what we as pharmacists have gone to school for. I think giving these tasks to technicians lessens how pharmacists are thought of. Let's keep pharmacist's jobs to what we were trained for and not delegate our responsibilities to someone without the schooling we endured.” Additional respondents expressed fears that some technicians don’t care about their job, but pharmacists are ultimately responsible and their “license is on the line.” These pharmacists feel that “technicians don’t take their work seriously” and “liability still falls on the pharmacist on duty.” Other pharmacists had a negative outlook regarding national certification because “many highly qualified technicians are not nationally certified. There are many pharmacy technician tasks in a pharmacy that don’t require additional textbook education, but rather personality traits like attentiveness, focus and commitment.” Another respondent expressed, “In my experience, my non-certified technicians were better at their jobs than the nationally certified ones. The book smarts to qualify for national certification does not equate to being proficient in a retail pharmacy setting.”

## **Training/Experience**

Many respondents focused on the amount of training and experience needed for pharmacy technicians to perform certain tasks. As the role of technicians expands and they begin to take on higher-level tasks, one respondent expressed the “need to have greater training with the additional responsibilities required of them.” Another pharmacist that responded to the survey indicated that on the job training and work experience is more important than schooling. This respondent emphasized that “hands on activity means more than anything you can study. With school, you are dealing with scenarios, but not real-life situations.” Others expressed the importance of job experience over national certification. One respondent argued that “years of experience should be considered vs certification nationally.” The “quality of training” available was also brought up as there are “quite a few sub-standard programs provided, which have given very little to the participating technicians.” Another pharmacist offered the idea that if technicians “were trained in a standardized manner nationwide,” allowing them to take on more tasks “could be a future potential.”

## **Compensation**

Money was another big issue brought up by the pharmacists surveyed. A lot of respondents argued that pharmacy technicians aren’t paid enough for the work that they do. One pharmacist articulated that technicians “aren’t paid enough to care” because “their wages don’t allow them to live a normal-above normal life that would require to take on the extra stress (of new tasks).” As stated by one respondent, “experienced, well trained technicians are under paid and overworked.” Many pharmacists argued that pharmacy technicians should be paid more if they start to take on extra tasks and

responsibilities. A respondent expressed, “I think that if we are going to give our technicians more training and responsibilities, we have to compensate them appropriately. At their current pay rate, I do not think it would be fair to expect them to do that.” Another respondent echoed this idea and stated, “if technicians are expected to do more and more difficult tasks, pay will need to increase dramatically.” Another pharmacist indicated that there should also be compensation for national certification. This respondent stated that “as an extra incentive, there should be a marked increase in pay for certifications beyond just the license” because “this would help promote continued learning and would provide a form of motivation for techs to get more training and more education.”

### **Education/Knowledge**

The amount of education and knowledge a pharmacy technician has was also mentioned by the pharmacists surveyed. One respondent offered the belief that “more education correlates to a better employee.” There are also fears that, currently, pharmacy technicians don’t have the proper amount of schooling and knowledge that pharmacists have about different aspects of medications and drug interactions. This was paralleled by one pharmacist, who was uncomfortable with technicians receiving prescriptions, due to the fact that “technician(s) lack proper schooling and knowledge about drug names/strengths, etc.” to properly complete this task. Regarding expanding the role of pharmacy technicians to take on more tasks, a respondent expressed that they were uncomfortable with this idea right now because they “work with technicians that would not have the knowledge currently to perform the tasks.” The same respondent also indicated they were nervous about technicians “taking verbal prescriptions” due to their lack of knowledge,

and offered the idea that “they should have the knowledge to at least recognize when a dose is incorrect or inappropriate.”

### **Comfort Level**

A small number of respondents offered comments about the comfort level of pharmacy technicians and pharmacists when appointing tasks to technicians. There was a widespread idea that proper education and training ultimately makes pharmacists more comfortable with technicians completing certain tasks. As stated by one respondent, “I think technicians should be certified before starting a job or shortly after (within 3-6 months)” because “ensuring technicians have the extra training under their belt gives me more confidence with my team and providing best care to our patients.” Another respondent commented that technicians “serve a vital role in the practice of pharmacy,” but “training is essential for them to make the pharmacist comfortable with delegating tasks to them.” The comfort level of pharmacy technicians was also brought up by respondents. One comment stated, “I feel technicians are totally capable of doing the more advanced tasks,” but “how comfortable are they going to be with increased liability?” Another respondent expressed, “I think certified techs can perform most of my job tasks...I would not force a tech to do a task they did not feel confident in doing. It’s still my license on the line.”

### **Certification/Training Requirements**

A variety of responses were given regarding national certification of technicians. Comments ranged from “all techs at our company must be nationally certified” to “I would love for my tech. to be nationally certified” and “our state does not require certification yet.” One respondent expressed their opinion that “every state needs to

require technicians be certified by either PTCB or an in-house training program in order for them to work in a retail pharmacy.” When thinking about the future of the role of pharmacy technicians, a pharmacist commented that “techs giving immunizations is going to be a thing but they should have multiple certifications for that,” while another indicated that “technician responsibilities...at this time do not require national certification or additional training outside our business.” The pharmacist went on to say, “if we see opportunities to include technicians in clinical services, will certainly encourage our better technicians to pursue the training necessary and will provide reimbursement for the training.”

### **Responsibilities/Workload**

Overall, respondents were hopeful that delegating new tasks to pharmacy technicians will allow pharmacists to focus on other aspects of their job. One pharmacist stated that “official certification for techs that would allow them to take more of the work load off of pharmacists would be great,” while another commented “we utilize pharmacy tech, both certified and non-certified, for all data entry, counting, along with any other tasks that can free up our pharmacists for pharmacist necessary duties.” An additional respondent echoed this idea, stating “I believe that enhancing technician training will provide an opportunity for pharmacists to take on other roles that would benefit the patients.” This respondent went on to say that this could potentially allow pharmacies to “add services to help enhance medication compliance and education to patients.”

### **Increase Staff**

Another focus of respondents’ comments was the need to increase the amount of pharmacy technicians that work in a pharmacy. One opinion was that “advanced

technician training and tasks are dependent upon being able to find and hire technicians, paying them more and increasing staffing models...I am in favor of more training and tasks but there has to be better staffing to allow for this.” Some pharmacists believe that there aren’t enough people open to becoming a pharmacy technician. A respondent commented that it’s “hard to raise standards/qualifications for technicians when the supply is already low due to inadequate compensation and stressful working environment.”

### **Employees’ Opinions**

A small number of comments focused on pharmacy technicians’ opinions regarding national certification. One respondent had a positive outlook on certification and stated, “I believe that by providing the opportunity to become nationally certified, our company has seen an increase in employee satisfaction.” Another pharmacist was slightly against national certification and replied, “I don’t believe that the majority of our techs have the desire to become nationally certified.”

## **DISCUSSION**

Throughout the country, pharmacy technicians have started to take on new and different tasks in order to remove some of the burden from pharmacists. As technicians have taken on a bigger role in the pharmacy, not all pharmacists agree that this change is for the better. There has been very little research surrounding the role of pharmacy technicians and pharmacists' attitudes regarding these roles. This study was created to determine the differences in state regulations for pharmacy technicians, as well as gain insight into pharmacists' perceptions regarding expanded technician responsibility. Data was collected using the 2019 Survey of Pharmacy Law (Catizone) and a nationwide survey sent out to community pharmacists across The United States. Analysis of the results show that states differ in their pharmacy technician regulations, and pharmacists tend to have a positive outlook on allowing technicians to expand their role, as long as appropriate training and education are in place.

### ***Interpretation of Results - Description of State Regulations for Pharmacy Technicians***

A majority of states require pharmacy technicians to obtain a license through their state's Board of Pharmacy. Licensure seems to be the baseline requirement for people to become a pharmacy technician in The United States. A minority of states have an additional requirement of national certification. This regulation is probably less frequent due to the fact that certification requires extra time, knowledge, training, and commitment. In order to become nationally certified, technicians must complete training courses and pass the Pharmacy Technician Certification Exam (PTCE) or Exam for

Certified Pharmacy Technicians (ExCPT). A certification status is only meant for individuals who excel in pharmacy and have the additional knowledge required.

A small number of states allow pharmacy technicians to give and receive verbal prescriptions. This could be because pharmacists don't feel comfortable quite yet allowing technicians to take on this added responsibility. They may think that technicians don't have enough knowledge of drugs, and therefore are more prone to make a mistake that could jeopardize the health of patients. Pharmacists may only gain confidence in technicians giving and receiving verbal prescriptions if additional education classes and training are offered.

Only a few states allow pharmacy technicians to check prescriptions and administer immunizations. These extremely low frequencies are probably due to the complex nature of the tasks. A majority of pharmacists probably do not have enough confidence in technicians to accurately check prescriptions. Pharmacists have gone through years of schooling and training in order to obtain enough knowledge of medications and drug interactions to correctly check prescriptions, something pharmacy technicians do not have. There is a lack of available education and training programs in place that are able to teach technicians how to accurately check prescriptions. Technicians simply don't have all the schooling and knowledge on drugs that pharmacists have. Technicians being able to give immunizations is also rare, probably due to the same reasons. Pharmacists most likely don't trust technicians enough to complete this task because of the lack of training programs to teach technicians how to correctly administer an immunization and the procedures that accompany it. The additional training, education, and knowledge required to gain a national certification credential could



increase pharmacists' confidence in those technicians to accurately check prescriptions and administer immunizations. Overall, some pharmacists may be biased against technicians, and could believe that checking prescriptions and administering immunizations are tasks completed by pharmacists, and that's how it should stay.

### ***Interpretation of Results - Pharmacist Perceptions of Pharmacy Technician Training***

Most of the respondents reported they believe pharmacy technicians should enroll in an education program before being eligible for a national certification exam, with fewer answering "maybe" and an even smaller amount responding with "no." Considering how furthering their education would help technicians increase their knowledge and skills to prepare them to take a national certification exam, this was expected. Chain pharmacists were more likely than independent pharmacists to agree that all nationally certified technicians should enroll in a technician program before being eligible for the PTCE or ExCPT. This could be attributed to chain pharmacies having access to more training programs and having more resources to create their own education programs.

Respondents were split regarding pharmacies paying for national certification exams. Pharmacists reported that their pharmacies were more likely to either reimburse the technician after passing the exam or not pay for the exam at all, rather than pay before the exam. Chain pharmacies were more likely than independent pharmacies to reimburse the technicians after taking the exam, whereas independent pharmacies were more likely to not reimburse the technician at all. This could be attributed to the fact that chain pharmacies have more revenue and a greater amount of funds available to pay for exams,

whereas independent pharmacies normally bring in less revenue and therefore, would be less willing to spend money on national certification exams.

While the results regarding pharmacies offering in-house education programs for national certification exams were similar between the two answers (yes or no), there was a slight majority of pharmacies not offering an in-house education program for technicians wanting to become nationally certified. Chain pharmacists were more likely than independent pharmacists to offer an in-house education program. This could be attributed to chain pharmacies having more access to resources than independent pharmacies. Chain pharmacies also tend to have a larger number of employees. It wouldn't be very economical or practical for independent pharmacies to offer education programs to a small number of technicians.

As expected, a majority of respondents reported that they believe there should be additional training for technicians beyond the national examinations for those who are interested. Furthering education and extra training are usually viewed positively, especially for those who want to better themselves in their career. Training programs are a great way to help technicians become more efficient and feel more comfortable completing their tasks. Additional training could also allow technicians to expand their role in the pharmacy and allow them to take on new tasks, such as administering immunizations or checking prescriptions. There were no differences between chain pharmacists' and independent pharmacists' beliefs as to whether there should be additional training for technicians beyond the national examinations for those who are interested. This is expected because both chain and independent pharmacists should want

their technicians to pursue additional training to learn new things and increase their knowledge about different aspects of a pharmacy.

Pharmacists reported that a majority of their pharmacies offer reimbursement for an education program outside of their company. This could be due to pharmacies wanting their technicians to further their education and increase their knowledge in topics relating to pharmacy. Many pharmacies may believe that if their employees learn more information about different areas of pharmacy, they will improve their skills needed for their job and execute their given tasks better and more efficiently. Technicians are probably more likely to complete an education company if they don't have to worry about paying out of pocket for it. The cost of some programs may be too much for some technicians to afford, but reimbursement takes away this obstacle. There were no differences between chain pharmacists' and independent pharmacists' offering of reimbursement for an education program outside their company. This can be attributed to the fact that both types of pharmacies most likely understand that money can be an issue for technicians pursuing additional training, and therefore, want to offer some type of reimbursement to help alleviate this problem.

Responses regarding the percentage of current technicians that are nationally certified were spread out between all answer choices. A slight majority of pharmacists reported that 75% or more of their technicians are nationally certified, followed by less than 25%, 50-74%, and 25-49%. These results were to be expected due to the fact that all pharmacies are unique and have different regulations regarding their technicians becoming nationally certified. Some pharmacies offer more encouragement and resources in order for their technicians to get certified, while others are impartial to their

technicians being nationally certified. It also depends on what state the respondents live in. Some states require their technicians to be nationally certified, causing them to be in the “75% or greater” category. Other respondents are from states where national certification is not required, meaning the percentages of current technicians certified are widespread. There were no differences between chain pharmacists’ and independent pharmacists’ in terms of what percentage of their technicians were nationally certified.

Most respondents reported that they encourage their technicians to pursue national certification. This is unsurprising due to the extra training, education, and knowledge associated with this credential. Gaining skills and information that will help a person excel in a career is generally viewed positively and people are encouraged to do this. This is the same case for technicians pursuing national certification. Independent pharmacists were more likely to NOT encourage their technicians to pursue national certification than chain pharmacists. This may be attributed to independent pharmacists having less money and resources available to help their technicians become nationally certified, whereas chain pharmacies are able to offer more aid to their technicians and therefore, are more open to encourage those seeking national certification.

A vast majority of pharmacists reported that they have more confidence in pharmacy technicians that are nationally certified to complete their tasks correctly and in a timely manner. This may be due to the fact that nationally certified technicians have completed additional courses and training in order to gain this credential. Therefore, they have more knowledge about different areas of pharmacy, such as safety practices, medication identification, communicating with patients, and aiding pharmacists. This extra insight most likely increases pharmacists’ trust in their technicians’ abilities to

efficiently do their job. There were no differences between chain pharmacists' and independent pharmacists' confidence in national certified technicians' ability to complete their tasks in a timely manner.

### ***Limitations***

Based on the scope of research and those who responded to the survey, the greatest limitation to the results seems to be diversity. While there was a wide range of respondents regarding age, gender, geographical community, and type of pharmacy they work in, there might not have been enough diversity to have the most accurate results possible. Both chain and independent pharmacists responded to the survey, but not all chain pharmacies and independent pharmacies in the country were represented in the survey.

### ***Future Research***

This study focused on pharmacists' views of the role of pharmacy technicians and how they feel about expanding their role in the pharmacy. Additional research could look at pharmacy technicians' opinions regarding certification, training, education programs, and other aspects of their job. A survey could be sent out to technicians across the country to see what they think about job requirements, available training, and how comfortable they feel taking on new tasks. This new data could be compared to that of pharmacists in order to better understand the goals for pharmacy technicians in the future.

Another important viewpoint that could be researched is that of patients. Patients of different pharmacies across the country could be surveyed to give insight into their attitudes toward pharmacy technicians. This could be useful in determining how comfortable they are with pharmacy technicians taking over tasks normally completed by

pharmacists. After all, the tasks completed by pharmacists and pharmacy technicians affect the patients. They need to be able to have confidence in technicians and be content with any new tasks the technicians take on. This data could be very important in determining if the pharmacy technicians will expand in the near future.

### ***Study Implications***

Based on the pharmacists' responses, the general results of the study indicate that training was a major issue when discussing expanding the roles of pharmacy technicians. In order for technicians to successfully and accurately take on new tasks, adequate training and education programs will need to be available. Any complications that may prevent technicians from participating in a program (money, access, etc.) will need to be eliminated in order for all technicians to receive the additional education and training needed. The pharmacists surveyed had an overall positive outlook regarding expanding the role of pharmacy technicians. This suggests that moving forward, there should be a nation-wide goal to allow pharmacy technicians to take on new tasks and responsibilities in the pharmacy. Only a small number of states permit pharmacy technicians to do certain tasks (administering immunizations and checking prescriptions). Allowing technicians to take on a few of these tasks will alleviate some of the strain on pharmacists, which will allow pharmacists to have more time for clinical services and patient care. Going forward, the amount of nationally certified pharmacy technicians should increase. The additional education and training associated with this credential can help prepare technicians as they begin to take on new tasks, such as giving and receiving prescriptions, administering immunizations, and checking prescriptions.

## REFERENCES

- ASHP Statement on the Pharmacist's Role in Primary Care. *The American Society of Health System Pharmacists*. Medication Therapy and Patient Care. <https://www.ashp.org/-/media/assets/policy-guidelines/docs/statements/pharmacists-role-primary-care.ashx>.
- Bertsch T.G., McKeirnan K.C., Frazier K., VanVoorhis L., Shin S., Le K. "Supervising pharmacists' opinions about pharmacy technicians as immunizers." *Journal of American Pharmacists Association*. [https://www.japha.org/article/S1544-3191\(19\)30129-3/pdf](https://www.japha.org/article/S1544-3191(19)30129-3/pdf).
- Catizone, Carmen A. *Survey of Pharmacy Law*. National Association of Boards of Pharmacy, 2017.
- Desselle S.P., Schmitt M.R. "Pharmacists' Perceptions of the Value of Technician Certification through a Nationally Accredited Certification Program." *Journal of Pharmacy Technology*. Sage Journals. <https://journals.sagepub.com/doi/abs/10.1177/875512251002600603>.
- Frost T.P., Adams A.J. "Pharmacist and Technician Perceptions of Tech-Check-Tech in Community Pharmacy Practice Settings." *Journal of Pharmacy Practice*. ResearchGate. [https://www.researchgate.net/publication/315929620\\_Pharmacist\\_and\\_Technician\\_Perceptions\\_of\\_Tech-Check-Tech\\_in\\_Community\\_Pharmacy\\_Practice\\_Settings](https://www.researchgate.net/publication/315929620_Pharmacist_and_Technician_Perceptions_of_Tech-Check-Tech_in_Community_Pharmacy_Practice_Settings)
- Frost T.P., Adams A.J. "Expanded pharmacy technician roles: Accepting verbal prescriptions and communicating prescription transfers." *Research in Social and Administrative Pharmacy*. ResearchGate. [https://www.researchgate.net/publication/311093633\\_Expanded\\_pharmacy\\_technician\\_roles\\_Accepting\\_verbal\\_prescriptions\\_and\\_communicating\\_prescription\\_transfers](https://www.researchgate.net/publication/311093633_Expanded_pharmacy_technician_roles_Accepting_verbal_prescriptions_and_communicating_prescription_transfers)
- How Can I Obtain A State License? *Pharmacy Technician Certification Board*. General State Licensing and Registration. <https://ptcb.zendesk.com/hc/en-us/articles/206194548-How-can-I-obtain-a-state-license->
- Malacos, Kristy. "Pharmacy Technician Education Requirements." *Pharmacy Times*. Pharmacy and Healthcare Communications. <https://www.pharmacytimes.com/publications/issue/2016/July2016/pharmacy-technician-education-requirements>

- Marotta, Ryan. "Pharmacy Technician License Requirements by State." *Pharmacy Times*. <https://www.pharmacytimes.com/news/pharmacy-technician-license-requirements-by-state>.
- National Association of Boards of Pharmacy. Survey of Pharmacy Law. Mount Prospect, IL: 2019.
- Pharmacists. Occupational Outlook Handbook. Bureau of Labor Statistics, U.S. Department of Labor. <https://www.bls.gov/ooh/healthcare/pharmacists.htm>.
- Pharmacy Technician Certification. *ASHP*, American Society of Health-System Pharmacists. <https://www.ashp.org/Pharmacy-Technician/About-Pharmacy-Technicians/Pharmacy-Technician-Development/Pharmacy-Technician-Certification>
- Pharmacy Technicians. *Occupational Outlook Handbook*. Bureau of Labor Statistics, U.S. Department of Labor. <https://www.bls.gov/ooh/healthcare/pharmacy-technicians.htm>.
- Research. *Pharmacy Technician Certification Board*. News, Research. <https://www.ptcb.org/news/research>.
- Saffer, Nancy. "Pharmacy Technicians and Assistants." *Occupational Outlook Quarterly*. Bureau of Labor Statistics, U.S. Department of Labor. <https://www.bls.gov/careeroutlook/1999/Spring/art04.pdf>.



## **APPENDIX 1: SURVEY**

### **Consent Form**

**Study Title:** Community Pharmacist Perceptions of Increased Technician Responsibility

#### **Investigator**

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### **Key Information for You to Consider:**

#### **Purpose**

The purpose of this survey is to understand the comfort levels of pharmacists with technicians taking on additional responsibilities.

#### **Duration**

This survey should take no more than 10-12 minutes to complete.

#### **Activities**

You will be asked a series of questions about yourself, your practice setting, your pharmacy's workload, and your comfort level with technicians taking on additional tasks in the pharmacy.

#### **Why you might not want to participate**

You do not have time to complete this survey.

#### **Why you might want to participate**

Your participation is entirely voluntary. Some benefits include helping a student collect data to help shape both training of pharmacy technicians in the future and potential policies to allow for pharmacists to operate at the top of their training. Your responses

will be completely confidential. Data will be reported in aggregate only, and no names will be reported.

**Description**

My name is Wesley Sparkmon, and I am a second-year graduate student at the University of Mississippi. I am asking for your participation in this research survey which I am conducting as part of my master's thesis within the University of Mississippi School of Pharmacy's Pharmacy Administration department. This survey includes various questions about yourself, your work setting, your workload, and your comfort levels with pharmacy technicians taking on additional responsibilities within the pharmacy. All of the tasks are currently implemented by *at least* one board of pharmacy in the United States. Your willingness to participate in this research will help me better understand the perceptions of pharmacists regarding a potential shift in technician scope of practice.

**Cost and Payments**

There are not costs to participants of this survey.

**Risks and Benefits**

No risks or benefits are anticipated in the completion of this survey.

**Confidentiality**

All information will remain confidential for the school and anonymous for the respondent. Only the research team will have access to the data you provide and all data will be analyzed in aggregate.

**Right to Withdraw**

You do not have to take part in this study and you may stop participation at any time. If you start the study and decide that you do not want to finish, you may simply exit the survey.

**IRB Approval**

This study has been reviewed by The University of Mississippi's Institutional Review Board (IRB). If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482 or [irb@olemiss.edu](mailto:irb@olemiss.edu).

**Statement of Consent**

By clicking the 'next' button, I attest that I am 18 years of age or older and consent to taking this survey.

Q1 What is your age?

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*Skip To: End of Block If Condition: What is your age? Is Less Than 18. Skip To: End of Block.*

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Q2 Which gender do you primarily identify with?

- ☐ Male (1)
  - ☐ Female (2)
  - ☐ Other (3)
- 

Q3 What is your highest level of pharmacy education?

- ☐ Bachelor's Degree (1)
  - ☐ Doctor of Pharmacy (2)
  - ☐ Post-Graduate Residency Training (3)
-

Q26 How long have you been a practicing pharmacist?

- ☐ Less than 5 years (1)
  - ☐ 5-10 years (2)
  - ☐ 11-15 years (3)
  - ☐ 16-20 years (4)
  - ☐ More than 20 years (5)
-

Q4 Which of the following best describes your pharmacy of primary employment?

- ☐ Independent Pharmacy (1)
  - ☐ Chain Pharmacy (2)
- 

Q5 In which state do you primarily practice?

▼ AL - Alabama (1) ... Click to write Choice 53 (53)

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Q6 In which of the following locations would you classify your practice site?

- ☐ Urban (1)
- ☐ Suburban (2)
- ☐ Rural (3)

Q16 Do you believe all nationally certified technicians should enroll in a technician education program before being eligible for the Pharmacy Technician Certification Exam (PTCE) or Exam for Certified Pharmacy Technicians (ExCPT)?

- ☐ Yes (1)
  - ☐ Maybe (2)
  - ☐ No (3)
- 

Q17 Does your pharmacy offer to pay for the PTCE or ExCPT for interested technicians?

- ☐ Yes, before the exam (1)
- ☐ Reimburse the technician after passing the exam (2)
- ☐ No (3)

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Q18 Does your pharmacy offer an in-house education program for technicians wanting to become nationally certified?

☐ Yes (1)

☐ No (2)

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Q19 Do you believe there should be additional training for technicians beyond the national examinations for those who are interested?

☐ Yes (1)

☐ No (2)

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Q20 Does your pharmacy offer reimbursement for an education program outside of your company?

☐ Yes (1)

☐ No (2)

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Q21 What percentage of your current technicians are nationally certified?

☐ Less than 25% (1)

☐ 25-49% (2)

☐ 50-74% (3)

☐ 75% or greater (4)

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Q22 Do you encourage your technicians to pursue national certification?

- ☐ Yes (1)
- ☐ Sometimes (2)
- ☐ No (3)
- 

Q23 Do you have more confidence in pharmacy technicians that are nationally certified to complete their tasks correctly and in a timely manner?

- ☐ Yes (1)
- ☐ No (2)
- 

Q24 Please provide any additional comments about technician training, certification, and/or tasks.

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